

IN THE SPECIFICATION

Please replace paragraph [0029] with the following:

[0029] Figure 2 is a block diagram of an exemplary method 200 of generating a look-up table of parallel impedance versus inductive gap. The method includes coupling 202 a predetermined resistance in parallel with cable 15. The resistance may simulate an effect of fluid intrusion into cable 15. In the exemplary embodiment, the resistance represents the effect of water wetting cable 15. In other embodiments, the fluid may be, for example, but not limited to, oil, hydraulic fluid, or a solvent. An inductive ratio of cable 15 is measured 204 at a plurality of frequencies. In the exemplary embodiment, system 10 is configured to drive transducer 12 at three different frequencies, each frequency being generated by a different programmable DDS 72. Substantially simultaneously with the inductive ratio ~~measurement 202, system~~ measurement 204, system 10 also measures 206 a respective parallel impedance of cable 15. The average of the inductive ratios measured at each frequency is computed 208 and correlated 210 to an inductive gap value. Each measurement may be plotted 212 such that a curve of respective parallel impedance values versus the corresponding inductive gap is defined. In one embodiment, the results of each computation are plotted on display 150 in a textual format. In the exemplary embodiment, the results are displayed in a graphical format.

Please replace paragraph [0033] with the following:

[0033] Figure 3 illustrates an exemplary look-up table 300 of parallel impedance gap versus inductive gap that may be generated using method 200 (shown in Figure 2). Table 300 includes an x-axis 302 that represents parallel impedance gap in units of distance, for example, mils, and a y-axis 304 that represents inductive gap in units of distance. Table 300 includes a plurality of curves that define a response of cable 15 and transducer 12 to an average of three different excitation frequencies and at a plurality different parallel impedance gaps. Trace 306 represents a curve plotted without resistance added in parallel with cable 15. This represents a relatively dry cable condition, such as, without fluid intrusion into cable 15 or transducer 12. Trace 308 represents a curve plotted with approximately 400k Ω of resistance added in parallel with cable 15. Trace 310 represents a curve plotted with approximately 200k Ω of resistance added in parallel with cable 15. Trace 312 represents a curve plotted with approximately 100k Ω of resistance added

in parallel with cable 15. Trace 314 represents a curve plotted with approximately $49.9\text{k}\Omega$ of resistance added in parallel with cable 15. Table 300 may be used in conjunction with present readings of parallel impedance gap. Each resistance value represents a different level of fluid intrusion into cable 15.